

WHAT IS CLAIMED IS:

1. A cable modem termination system (CMTS), the CMTS comprising:
a gateway configured to output signals on at least two types of data tunnels for transfer over a cable network to Customer Premises Equipment (CPE), each data tunnel characterized as a one-way data stream of out-of-band (OOB) messaging signals, wherein each type of data tunnel is associated with a different type of OOB messaging signals such that different types of data tunnels transfer different types of OOB messages.
2. The CMTS of claim 1 wherein the gateway is configured to output the OOB messaging signals on at least four types of data tunnels.
3. The CMTS of claim 1 wherein at least one of the types of data tunnels is a broadcast tunnel.
4. The CMTS of claim 1 wherein at least one of the types of data tunnels is a conditional access tunnel.
5. The CMTS of claim 1 wherein at least one of the types of data tunnels is an application tunnel.
6. The CMTS of claim 1 wherein at least one of the types of data tunnels is a code download tunnel.
7. The CMTS of claim 1 further comprising a plurality of output ports in communication with the gateway for outputting the data streams of the data tunnels onto the network, wherein each output port includes at least two types of data tunnels.

8. The CMTS of claim 7 wherein a first and a second one of the plurality of output ports are associated with different types of OOB messaging signals.
- 5 9. The CMTS of claim 8 further comprising a plurality of blades, each blade including one or more output ports.
10. The CMTS of claim 9 wherein the first and second output ports are located on the same blade.
11. The CMTS of claim 9 wherein the first and second output ports are located on different blades.
- 10 12. The CMTS of claim 1 wherein each data tunnel is identified with a network address.
13. The CMTS of claim 1 wherein the gateway transfers the OOB messaging signals according to protocols defined in a Data Over Cable Service Interface Specification (DOCSIS).
- 15 14. The CMTS of claim 1 wherein the CPE is a settop box.
15. The CMTS of claim 1 wherein the CPE includes an embedded cable modem (eCM) and an embedded settop box (eSTB).
16. The CMTS of claim 15 wherein the OOB messaging signals are transferred to the eCM.
- 20 17. The CMTS of claim 1 wherein the CMTS outputs a downstream channel descriptor (DCD) for associating the different types of data tunnels with network address.

18. A cable modem termination system (CMTS), the CMTS comprising:

5 a gateway configured to output signals on a plurality of data tunnels for transfer over a cable network to Customer Premises Equipment (CPE), each data tunnel characterized as a one-way data stream of out-of-band (OOB) messaging signals; and

a plurality of output ports for transferring the OOB messaging signals from the gateway to the cable network, wherein each output port is capable of transferring different OOB messaging signals.

10 19. The CMTS of claim 18 wherein each output port includes at least two types of data tunnels.

20. The CMTS of claim 18 wherein a first and a second one of the plurality of output ports are associated with different OOB messaging signals.

15 21. The CMTS of claim 20 further comprising a plurality of blades, each blade including one or more output ports.

22. The CMTS of claim 21 wherein the first and second output ports are located on the same blade.

23. The CMTS of claim 21 wherein the first and second output ports are located on different blades.

20 24. A method of transferring out-of-band (OOB) messaging signals from a cable modem termination system (CMTS) to Customer Premises Equipment (CPE), the method comprising:

25 outputting the OOB messaging signals from the CMTS onto at least two types of data tunnels for transfer over a cable network to the CPE, each data tunnel characterized as a one-way data stream of OOB messaging signals, wherein each type of data tunnel is associated with a different type of OOB messaging signal such that different types of data tunnels transfer different types of OOB messages.

25. The method of claim 24 further comprising outputting the OOB messaging signals on at least four types of data tunnels.
26. The method of claim 24 further comprising outputting the OOB messaging signals according to protocols defined in a Data Over Cable Service
5 Interface Specification (DOCSIS).
27. The method of claim 24 further comprising associating each data tunnel with a network address.
28. The method of claim 27 further comprising outputting a downstream channel descriptor (DCD) message from the CMTS, the DCD message
10 associating the network addresses with the type of data tunnel.
29. The method of claim 28 wherein the DCD message includes a tunnel type identifier for each network address included therewith.
30. The method of claim 24 wherein the CMTS is configured to output OOB messaging signals to a plurality of CPEs, and wherein the CMTS
15 outputs a first tunnel type having a type of OOB message that is associated with a portion of the CPEs on the cable network and a second tunnel type having a type of OOB message that is associated with one or more but not all of the portion of the CPEs on the cable network that are associated with the first tunnel type.
31. The method of claim 29 wherein the first tunnel type is a
20 broadcast or application tunnel.
32. The method of claim 29 wherein the second tunnel type is a conditional access tunnel.
33. A method of transferring out-of-band (OOB) messaging signals from a cable modem termination system (CMTS) to a customer premises
25 equipment (CPE), the method comprising:

outputting the OOB messaging signals from the CMTS to a cable network through a plurality of output ports, wherein each output port is capable of transferring different OOB messaging signals.

34. The method of claim 33 further comprising outputting at least
5 two types of data tunnels on each output port.

35. The method of claim 33 further comprising associating a first and a second one of the plurality of output ports with different OOB messaging signals.

36. The method of claim 35 further comprising associating the
10 plurality of output ports with a plurality of blades, each blade including one or more output ports.

37. The method of claim 36 further comprising associating the first and second output ports with the same blade.

38. The method of claim 36 further comprising associating
15 the first and second output ports with different blades.